

IN THE SPECIFICATION

Please amend the paragraph beginning at page 8, line 25, as follows:

The polymer electrolytes most preferably contain between about 1 wt.% to about 30 wt.% gelling agent and between about 30 wt.% to about 99 wt.% (advantageously about 95 wt.% or greater, for example, up to about ~~99.99~~ 99 wt.%) of liquid electrolyte that comprises between about 0.5M to about 2.0M metal salts, most preferably a lithium salt such as LiPF_6 , LiAsF_6 , LiClO_4 , $\text{LiN}(\text{CF}_3\text{SO}_2)_2$, LiBF_4 , LiCF_3SO_3 , LiSbF_6 , and mixtures thereof, in an organic solvent. If the content of the gelling agent is less than 1 wt.%, the electrolyte cannot form a gel at elevated temperature. On the other hand, if the gelling agent content is greater than about 30 wt.%, the electrolyte becomes too viscous (rigid) thereby causing a deterioration of the cell performance. In this regard, the ionic conductivity of an electrolyte is in inverse proportion to its viscosity and thus increasing the viscosity of the gel electrolyte will significantly reduce its ionic conductivity property. However, the gel polymer electrolyte of the present invention surprisingly exhibits similar ionic conductivities as compared with that of conventional liquid electrolyte. While not wishing to be bound to any particular theory, it is believed that the surprisingly high ionic conductivities exhibited by the gel polymer electrolytes of the present invention may be due to a generation of ionic species on the polymer chain during gelling. While gelling of an electrolyte tends to increase its viscosity and reduce its ionic conductivity, the ionic structures on the polymer chain of the gel electrolyte of the present invention increase its ionic concentration and thus may be a contributing factor in the conductivity being comparable to those exhibited by conventional liquid electrolytes. Specifically, the ionic conductivities of the gel polymer electrolyte according to the present invention is about 1×10^{-2} S/cm or less, and preferably between about 1×10^{-3} to about 1×10^{-2} S/cm. The particular ionic conductivity that may be achieved is dependent on the particular gelling agent composition and/or the type of electrolyte employed.